AL504.02(a) Reporting Problems, Deficiencies, and Failures

When a structure deficiency comes to the attention of an employee, they should immediately notify the assistant state conservationist for field operations (ASTCFO). When there is reason to believe that delay will cause loss of valuable physical evidence, the ASTCFO will immediately dispatch an NRCS employee to make documentary color slides and assemble any apparent physical evidence at the site. The ASTCFO will immediately notify the state conservationist (SC) or state conservation engineer (SCE) of the deficiency.

When an obviously significant deficiency occurs, the SC will appoint an Investigating Committee, not directly connected with the job to proceed immediately with an investigation. In all other situations the SC will designate an engineer to make an immediate evaluation of the situation and determine whether a full committee investigation is warranted. The designated engineer will make his verbal recommendation expediently; normally, that day or the following day. If a committee study is not warranted, the designated engineer will make a formal report to the SC following the general guidelines of Part 504.05. The designated engineer will be a member of or consultant to the Investigating Committee if a committee report is required.

PART 504 – SPECIAL INVESTIGATIONS, STUDIES, AND REPORTS

SUBPART B – EMERGENCY SPILLWAY PERFORMANCE

AL504.10

AL504.10 General

The costs of these studies will be charged to the appropriation(s) expected to receive the benefits. All affected offices will be notified of time activities that can be charged for these studies when they are initiated.

AL504.11 Scope

A field study will be made each time the emergency spillway flows full or a depth of flow through the emergency spillway is greater than three feet or where significant scour occurs. A report will be developed on the results of the study.

AL504.14

AL504.14 Procedure

The district conservationist (DC) is responsible for determining when emergency spillway flow has been experienced. The DC will inform the assistant state conservationist for field operations (ASTCFO) of such flows and aid in securing engineering assistance. The ASTCFO will notify the state conservationist (SC) and state conservation engineer (SCE) when such an event occurs. The SCE will coordinate an emergency spillway performance study team and make arrangements for analysis and preparation of reports.

Documentation will begin immediately with the DC or a representative taking color slides and black and white pictures of flow damages. The DC will also immediately determine or mark the depth of flood flow through the emergency spillway(s). Additional slides and pictures will be made of erosion and sediment damage after flow has subsided. Records on rainfall, duration, runoff, etc., will be secured from available sources such as weather service records, private records, and NRCS measurement records. If flow measuring devices are located in the watershed, the field office should utilize them.

Structures that experience emergency spillway flow will require detailed surveys to accurately assess damages, flood depths, widths and measurement for needed repair and cost estimates. Detailed surveys will be undertaken only after authorization by the SC. AL-ENG-A – Emergency Spillway Performance Report (See AL504.14. Exhibit 1. AL-ENG-A - Emergency Spillway Performance Report), will be used as a guide to obtain and record field study data. All appropriate items on the AL-ENG-A will be completed by the DC and engineer. An attachment will be used to provide engineering data or other lengthy items for use by the SCE and staff.

AL504.14 Exhibit 1. AL-ENG-A – Emergency Spillway Performance Report

U.S. Department of Agriculture
Natural Resources Conservation Service

AL-ENG-A
6/99

EMERGENCY SPILLWAY PERFORMANCE REPORT

_____ **(Watershed)** **Prepared by:** _____
_____ **(Location)** **Date:** _____

1. **Name of Watershed:** _____
2. **Name or Number of Structure:** _____
3. **Location (latitude and longitude):** _____
4. **Date Constructed:** _____
5. **Drainage Area (sq. miles):** _____
6. **Height of Dam (feet):** _____
7. **Emergency Spillway Dimensions "as-built":** **Depth:** _____
   Width: _____

   a. Plan and profile along spillway CL from entrance to streambed end of exit slope. [1/]

   b. Cross sections at control section and at selected points. [1/]

   c. Typical geologic profiles at control section or exit channel from construction. [1/]

   d. Statement regarding the condition of the spillway before the flood event including the density and type of vegetation.

   _____
   _____

   e. A copy of the last maintenance and inspection report (attach copy). [2/] _____

   f. Slides, photographs, newspaper clippings, etc., of pre-storm spillway conditions. [2/] _____

8. **Hydrology**

   a. Date of Storm Event: _____

   b. Rainfall depth and duration based on available rainfall information and computed peak discharge for event.

   _____ inches _____ cubic feet per sec.

   _____ duration

c. Runoff - If a stream gage is available, USGS “provisional” data should be included.

_____ inches _____ cubic feet per sec.

d. Observed or reconstructed inflow and outflow hydrographs at the structure, including maximum reservoir stage and duration of emergency spillway flow.[1/] _____

e. Physical factors of drainage area related to a weighted “CN” including antecedent moisture and vegetative cover conditions immediately preceding storm event.

“CN” _____
Excellent _____ Good _____ Fair _____ Poor _____ Veg. Cover _____

9. Structural Damage

a. Description of flood damage in the emergency spillway, including location, depth and severity of erosion, or statement that no appreciable damage occurred.

Location - _____
Depth of Flow - _____
Severity of Erosion - _____
No appreciable damage occurred - _____

b. Photographs of post-storm conditions in spillway and downstream.[2/]

c. Estimate of volume of soil or rock eroded from various sections of spillway.

_____ cu. yds.

d. An estimate of the cost to repair spillway. _____

10. Recommendations: _____

_____

_____

_____

[1/] Attach appropriate sheets for engineering data and other lengthy items.

[2/] Enclose inspection reports, newspaper clippings, illustrations, slides, photographs, etc.

AL504.15 Report.

A report will be prepared including a concise narrative with photographs, newspaper clippings, illustrations, and tables as needed.

An emergency spillway performance study and report does not in any way alter circumstances under which a deficiency study may be needed. If damages exceed vegetative scour and minor gullies, the situation may fall under the preview of NEM Part 505. This is structure deficiency and requires immediate notification of the assistant state conservationist for field operations who in turn contacts the state conservationist. The procedure outlined in NEM Part 505 will be followed under these circumstances.